



FACT SHEET

Office of the
Assistant Secretary of Defense (Health Affairs)
Deployment Health Support Directorate

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Deseret Test Center Project SHAD

Big Tom

Project Shipboard Hazard and Defense (SHAD) was part of the joint service chemical and biological warfare test program conducted during the 1960s. Project SHAD encompassed tests designed to identify US warships' and ashore installations' vulnerabilities to attacks with chemical or biological warfare agents and to develop procedures to respond to such attacks while maintaining a war-fighting capability.

The purpose of Big Tom was to evaluate the feasibility of a biological attack against an island complex and to evaluate doctrine and tactics for delivery of such an attack.

Test personnel investigated the diffusion and downwind travel of biological simulant and tracer aerosols; estimated area coverage in both jungle and surrounding tropical terrain; investigated the degree of aerosol penetration of a jungle canopy, ventilation rate, and time resolution of aerosols; and, investigated the degree of penetration and aerosol time resolution of typical fortifications.

The test consisted of a series of aerial line-source trials during which a biological simulant, *Bacillus globigii*, was disseminated from a high performance aircraft. Both liquid and dry *Bacillus globigii* were used. Liquid *Bacillus globigii* was disseminated from an Aero 14B spray tank mounted on a US Navy A-4 aircraft. Dry *Bacillus globigii* was disseminated from an A/B Y45-4 spray tank mounted on a US Air Force F-105 aircraft. Aerosol sampling was done at various land-based stations.

The Department of Defense (DoD) is providing this information, at the request of the Department of Veterans Affairs (VA), to assist the VA in providing healthcare services to qualified veterans and to assist veterans in establishing service connection for disability claims. The Deployment Health Support Directorate (DHSD) collected this information from multiple sources and requested that the military services declassify it to allow its public distribution. The VA accepts this information provided on location, dates, units and/or ships, and substances involved in this exercise, which DHSD extracted from classified DoD records, and will provide it to individual veterans as necessary, but the VA cannot verify its accuracy.

For this test, a contractor-flown Aero Commander aircraft also released two colors (yellow and green) of fluorescent particles of zinc cadmium sulfide (FP).

Big Tom was conducted on the island of Oahu, Hawaii and its surrounding waters and airspace during May and June 1965.

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Test Name	Big Tom (DTC Test 65-6)
Testing Organization	US Army Deseret Test Center
Test Dates	May – June 1965
Test Location	Oahu, Hawaii and surrounding waters and airspace
Test Operations	To evaluate the feasibility of a biological attack against an island complex and to evaluate doctrine and tactics for delivery of such an attack.
Participating Services	US Navy, US Marine Corps, US Air Force, Deseret Test Center personnel
Units and Ships Involved	USS <i>Granville Hall</i> (YAG-40)
Dissemination Procedures	Liquid <i>Bacillus globigii</i> was disseminated from an Aero 14B spray tank mounted on a US Navy A-4 aircraft; dry <i>Bacillus globigii</i> was disseminated from an A/B Y45-4 spray tank mounted on a US Air Force F-105 aircraft.
Agents, Simulants, Tracers	<i>Bacillus globigii</i> Zinc Cadmium Sulfide
Ancillary Testing	Not identified
Decontamination	Not identified
Potential Health Risks Associated with Agents, Simulants, Tracers	<u><i>Bacillus globigii</i> (BG)</u> Now considered to be <i>Bacillus subtilis var. niger</i> , a close relative of <i>Bacillus subtilis</i> , this bacterial species was used as a simulant and considered harmless to healthy individuals. <i>Bacillus subtilis</i> and similar <i>Bacillus</i> species are common in the environment, and are uncommon causes of disease. They have been associated with acute infections of the ear, meninges (brain lining), urinary tract, lung, heart valve, bloodstream, and other body sites, but always or nearly always in individuals whose health

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	<p>has already been compromised. Long-term or late-developing health effects would be very unlikely (except perhaps as a complication of the acute infection).</p>
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